

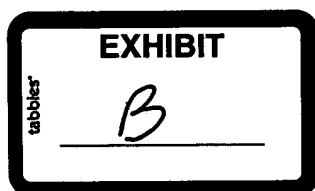
FOURTH ENLARGED EDITION

CONCISE CHEMICAL AND TECHNICAL DICTIONARY

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interfaces.

electrokinetics. Science concerned with the relationship between motion and electricity, e.g., cataphoresis, electro-osmosis.

Electrolon. Silicon carbide.

electroluminescence. Luminescence brought about by high frequency, low amperage electrical discharges.

electrolysis. Passage of an electric current through a solution with resultant migration of ions to positive and negative electrodes.

electrolysis, laws of. (1) For equal quantities of electricity, the amount of decomposition is constant or the amount of decomposition caused in electrolysis is proportional to the quantity of current passed (coulombs). (2) For the same quantities of electricity passed through different solutions, the amount of decomposition is proportional to the equivalent of the element or group deposited (Faraday).

electrolyte. Substance which will conduct an electric current either in the molten state or in solution; substance which dissolves into electrolytically charged ions when dissolved in water or other polar solvent.

electrolyte, strong. Electrolyte which is a good electrical conductor.

electrolyte, supporting. Electrolyte initially present at the same concentration throughout a diffusing system; electrolyte added to carry current up to mercury drops in polarograph.

electrolyte, weak. Electrolyte whose solution is ionized only to a small extent.

electrolytic conduction. Conduction of electricity by the ions in solution, the positively-charged ions (cations) traveling to the negatively-charged electrode (anode), and vice versa.

electrolytic deposition. Isolation of a metal on the cathode by electrolytic decomposition of a solution, of a salt or compound of the metal.

electrolytic dissociation. Separation of compounds into positive and negative ions when dissolved in water or other suitable medium.

electrolytic solution pressure. The tendency of a metal in solution to throw off positive metallic ions, leaving the metal negative, and establishing thereby a difference of potential between the metal and the solution, commonly called the electrode potential.

electrolytic valve. Electrode which permits passage of a current in one direction only.

electromagnet. Iron core placed within a coil of wire which behaves like an ordinary magnet when the wire is charged with electric current.

electromagnetic units (e.m.u.). System based on the magnetic force due to a current.

Electromartiol. Colloidal iron; used in the treatment of cancer.

Electromercural. Colloidal suspension of 0.1% metallic mercury in dilute sodium arabate; odorl. brnsh. trans. liq.; used in medicine.

electromeric change. Consecutive electron displacement; polar activation process or bond shifting process.

electromerism. Tautomerism produced by rearrangement of electrons among atoms of a molecule or

electromers. Two or more different electronic structures that can designate a certain molecule.

electromeson. Polytron.

electrometallurgy. Science which deals with the technique and apparatus used in metallurgical operations by electrical means, e.g., electrodeposition, electric furnaces, etc.

electrometer. Instrument for measuring potential difference.

electrometer tube. High vacuum amplifier with exceptionally low grid current.

electromotive force. Force in volts which causes an electric current to flow; energy derived from tendency of electricity to flow from points of higher potential to points of lower potential.

electromotive series. Arrangement of elements in accordance with their electrode potentials, the most electropositive element being at the top.

electron. Negatively charged particle which is a constituent of every atom and is the quantity of electricity equal to 4.77×10^{-10} absolute electrostatic unit.

π -electron. Loosely bound unsaturated electron in a conjugated hydrocarbon.

electron affinity. Degree of electronegativity or the extent to which an atom holds valence electrons in its immediate neighborhood, compared to other atoms of the molecule.

Electron alloys. Alloys of about 95% magnesium, 4.5% copper, 0.5% zinc.

electron attraction. Attraction exerted by an atom or radical on the shared electron pair joining it to some other atom.

electron band. Molecular spectrum band brought about by electron changes within the molecule.

electron binding energy (ionization potential). Energy needed to remove an electron from an atom.

electron, bonding. Electron having lower potential energy in the molecule than in the atom.

electron capture. Radioactive transformation of a nuclide in which a bound electron merges with its nucleus, decreasing the atomic number by 1 and leaving mass number unchanged in the new nuclide formed.

electron capture K. Process whereby an external electron from the shell nearest the nucleus enters the nucleus, causing the atomic number to decrease one unit.

electron cloud. Relatively stationary electrons in inter-electrode space of an electron discharge tube.

electron, Compton (recoil electron). Electron with momentum, due to the impact of quantum high energy radiation.

electron concentration. Ratio of electrons to atoms.

electron conduction. Electron from outer levels of atom, involved in electrical conduction in metals.

electron diffraction. Diffraction obtained when electrons are passed through a very thin metal foil; the metal crystals form the diffraction space lattice.

electron, free. Electron not attached to any one atom and not restricted by potential gradients.

electron gas. System of mobile electrons.

electron, hydrated. Short-lived electron strongly at-